

REMARKS

In the foregoing amendments, the specification is amended to correct typographical errors and to provide a reference numeral for an element first described in the specification. In addition, claims 23-24 are amended. Claims 1-28 remain pending in the present application.

I. Response to 35 U.S.C. §112, Second Paragraph Rejection

The Office Action rejected claims 4, 6, 8, 13, 15, 23, and 24 under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particular point out and distinctly claim the subject matter of the present application. In particular, the Office Action describes the term "about" as a relative term that renders the claim indefinite. Applicants respectfully traverse this rejection and assert that the original claims are clear and definite. However, in order to advance prosecution with respect to claims 23 and 24, Applicants have amended claims 23 and 24 herein by deleting the term "about". With respect to claims 4, 6, 8, 13, and 15, the following explanation is provided.

Claims 4, 6, 8, 13, and 15 are dependent claims that include subject matter concerning frequency responses of high-pass filtering or low-pass filtering operations. One of ordinary skill in the art understands that frequency responses of audio equipment are not always exact and therefore cannot be defined by a single value of signal strength (in decibels) at an exact frequency. Instead, one of ordinary skill in the art understands that such frequency responses are non-linear in theory and in real world circuitry.

Normally, high-pass filtering and low-pass filtering involve circuitry that may provide a range of attenuation values at approximate frequencies. Although theoretical values can be obtained using mathematical formulae, exact values cannot be obtained in real circuitry. Therefore, one of ordinary skill in the art would clearly understand that an approximate value for signal strength at a certain frequency is clearly within a reasonable scope as defined by the language in the claims. It is therefore believed that claims 4, 6, 8, 13, and 15 are definite

and clearly point out the subject matter as understood by one of ordinary skill in the art.

Applicants wish to clarify that the foregoing amendments have been made for the purpose of better defining the subject matter of the present application in response to the rejections made under 35 U.S.C. §112. The amendments have been made as a matter of form to make the claims more readable. The amendments have not been made for reasons related to patentability. Applicants submit that no substantive limitations have been added to the claims based on prior art. Therefore, no prosecution history estoppel arises from these amendments. *Black & Decker, Inc. v. Hoover Service Center* 886 F.2d 1285, 1294 n. 13 (Fed. Cir. 1989).

II. Response to 35 U.S.C. §102 Rejection

Claims 1, 2, 5-18, and 21-28 stand rejected under 35 U.S.C. §102(b) as allegedly being anticipated by DeFreitas et al. (U.S. Patent No. 4,053,711). Applicants respectfully traverse this rejection on the grounds that DeFreitas et al. does not disclose each and every element of the claims.

Claim 1 is reproduced below:

1. A multi-channel surround sound expansion method comprising the steps of:

reading a stereo sound signal including a left sound signal and a right sound signal;

expanding said stereo sound signal into a Front L channel, a Front R channel, a Front M channel, a Rear L channel and a Rear R channel sound signals; performing a sound reverberation operation on sound signals of said Front L channel and said Front R channel or said Rear L channel and said Rear R channel to generate sound with echo/reverberation;

delaying said Rear L channel and Rear R channel sound signals for a first time value; and

advancing said Front M channel sound signal for a second time value.
(Emphasis added)

Anticipation requires identity of the claimed process and a process of the prior art. The claimed process, including each step thereof, must have been described or embodied, either expressly or inherently, in a single reference. *See, e.g., Glaverbel S.A. v. Northlake Mkt'g & Supp., Inc.*, 45 F.3d 1550, 33 USPQ 2d 1496 (Fed. Cir. 1995). For anticipation, there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. *See, e.g., Scripps Clinic & Res. Found. v. Genentech, Inc.*, 927 F.2d 1565, 18 USPQ 2d 1001 (Fed. Cir. 1991.)

Claim 1 recites ***delaying said Rear L channel and Rear R channel sound signals for a first time value***. The Office Action seems to suggest that DeFreitas et al. discloses this subject matter and, in particular, seems to suggest that the subject matter is disclosed in the Abstract; FIGS. 1, 5, and 6; col. 2, line 59 through col. 3, line 17; and col. 6, line 29 through col. 8, line 37. Applicants disagree with this interpretation of DeFreitas et al. In contrast to claim 1, DeFreitas et al. actually discloses that the “delay time of reverberation unit 56R is set at 100 milliseconds, while the delay time of reverberation unit 56L is set at 60 milliseconds. This provides [an] interspersed echo effect...” (col. 6, lines 51-54). The right rear signal and left rear signal are thus delayed by two different delay times, i.e. 100 milliseconds and 60 milliseconds. Therefore, DeFreitas et al. fails to disclose ***delaying said Rear L channel and Rear R channel sound signals for a first time value*** as claimed.

Claim 1 further recites ***advancing said Front M channel sound signal for a second time value***. The Office Action seems to suggest that DeFreitas et al. discloses this subject matter, particularly in the same passage as mentioned above. Applicants respectfully disagree. In contrast to claim 1, DeFreitas et al. actually discloses a quadraphonic format including four audio signals, i.e. right front, left front, right rear, and left rear signals. DeFreitas et al. is therefore silent with regard to a ***front M channel sound signal*** as claimed. Furthermore, DeFreitas et al. is silent with regard to the aspect of ***advancing*** a signal for a second time value as claimed.

Since DeFreitas et al. fails to disclose each and every feature of claim 1, it is believed that claim 1 is allowable over DeFreitas et al. In addition, dependent claims 2-28 are believed to be allowable for at least the reason that they depend directly or indirectly from allowable independent claim 1.

III. Response to 35 U.S.C. §103 Rejection

Claims 3, 4, 19, and 20 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over DeFreitas et al. Applicants respectfully traverse this rejection.

The Office Action takes Official Notice regarding specific aspects of the claims. The Office Action states that it is well known in the art to provide a filter which filters out low-frequency components in order to provide a desired frequency response. The Office Action also states that it is well known in the art to modify a filter in order to obtain the desired frequency response. The Office Action also states that it is well known in the art to provide a Rear M channel sound signal in order to enhance surround sound and more realistic sound. The Office Action also states that it is well known in the art that the mean of said Rear L channel and Rear R channel sound signals is used in order to generate a desired Rear M channel sound signal.

Applicants respectfully traverse each of these statements and assert that the statements are not based on sound technical reasoning to support the conclusions. Also, the statements are not capable of instant and unquestionable demonstration as being well known, evidenced by the fact that the Office Action does not provide support in the form of supplementary references, which suggests that no supplementary references are actually available. Furthermore, in the context of the claim language of claim 1 and the intermediate claims, the claim elements of claims 3, 4, 19, and 20 are too complex or too specific for one of ordinary skill in the art to consider them to be well-known to the extent that no additional evidence is necessary.

For a proper rejection of a claim under 35 U.S.C. §103 as being obvious based upon a single reference, the reference must disclose, teach, or suggest,

either implicitly or explicitly, all elements/features/steps of the claim at issue. See, e.g., *In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q.2d 871, 881 (C.C.P.A. 1981). DeFreitas et al. fails to teach or suggest each and every step of independent claim 1, as mentioned above. The claims include features that, when taken as a whole, are patentable over the teachings of DeFreitas et al.

IV. References Made of Record

The references made of record have been considered, but are not believed to affect the patentability of the presently pending claims.

CONCLUSION

Any other statements in the Office Action that are not explicitly addressed herein are not intended to be admitted. In addition, any and all findings of inherency are traversed as not having been shown to be necessarily present. Furthermore, any and all findings of well-known art and official notice, or statements interpreted similarly, should not be considered well known for at least the specific and particular reason that the Office Action does not include specific factual findings predicated on sound technical and scientific reasoning to support such conclusions.

In light of the foregoing amendments and for at least the reasons set forth above, Applicant respectfully submits that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the now pending claims 1-28 are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned at (770) 933-9500.

Respectfully submitted,

/gwb/

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